STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF FEBRUARY 17-18, 2022
Prepared on January 27, 2022

ITEM NUMBER: **9**

SUBJECT: **Consideration of Proposed Order No. R3-2022-0004, Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0048127, and Draft Time Schedule Order No. R3-2022-0005 for the City of Lompoc Regional Wastewater Reclamation Plant, Santa Barbara County**

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KEY INFORMATION

Location:	1801 West Central Avenue, Lompoc, Santa Barbara County
Type of Discharge:	Disinfected tertiary treated wastewater
Permitted Monthly Average Effluent Flow:	5 million gallons per day (MGD)
Treatment:	Wastewater treatment includes bar screens, grit removal, oxidation ditches, and secondary clarifiers. Secondary effluent is filtered and disinfected by ultraviolet light. Sludge is thickened with dissolved air flotation treatment before aerobic digestion.
Disposal:	Inland surface water discharge to San Miguelito Creek, tributary to the Santa Ynez River. Digested biosolids are hauled away for composting.
Reclamation:	Production of recycled water for irrigation of onsite landscaping and other uses in the City of Lompoc.
Existing Orders:	Waste Discharge Requirements Order No. R3-2011-0211

ACTION: **Adopt Proposed Order No. R3-2022-0004**

SUMMARY

This staff report provides a brief overview of the proposed reissuance of the existing NPDES permit for the City of Lompoc Regional Wastewater Reclamation Plant (Facility). The Facility is a publicly owned treatment works (POTW) operated by the City of Lompoc (Discharger). Proposed Order No. R3-2022-0004 has effluent limitation and

monitoring changes based on the results of a reasonable potential analysis (RPA).[1] The Discharger was the only entity to submit comments during the public comment period. The Discharger's comments and Central Coast Regional Water Quality Control Board (Central Coast Water Board) staff responses are detailed in Attachment 1. A discussion of the permit revisions based on the RPA and in response to the Discharger's comments is provided in this staff report. The proposed order includes requirements that ensure the discharge of treated wastewater is protective of water quality and beneficial uses and that recycled water is treated to a standard that is protective of public health and the environment. Central Coast Water Board staff recommends adoption of the proposed order (Attachment 2).

DISCUSSION

The Discharger owns and operates a wastewater treatment reclamation plant that treats wastewater from the City of Lompoc, Vandenberg Space Force Base, and Vandenberg Village Community Services District. The Facility receives domestic, commercial, and industrial wastewater. The Discharger currently discharges tertiary-treated wastewater from the Facility pursuant to Order No. R3-2011-0211, NPDES Permit No. CA0048127. The Discharger submitted a report of waste discharge (i.e., permit renewal application), dated July 13, 2016, to continue discharging a permitted monthly average dry weather effluent flow up to 5.0 million gallons per day from the Facility.

The Facility discharges tertiary treated disinfected effluent to San Miguelito Creek, a tributary to the Santa Ynez River. The Discharger also produces recycled water for use on the Facility site and for direct non-potable uses at various locations within and around the City, such as construction dust control. The proposed order has been updated to authorize the Discharger to act as the producer of recycled water. The use and distribution of the recycled water for offsite uses is authorized by other permits. During the late spring to early winter, the natural creek flows are minimal, and the effluent discharge makes up the majority or all of the creek flow below the effluent discharge point. The State Water Resources Control Board's (State Water Board) Division of Water Rights authorized the Discharger to reduce the discharge of treated wastewater to the Santa Ynez River and redirect flows for recycling.

Compliance History

The following discussion is a summary of the violations that occurred during the term and administrative extension of Order No. R3-2011-0211. During the time period from January 2012 to January 2022, the Discharger incurred 39 chronic toxicity violations, one total nitrate violation, three oil and grease violations, five un-ionized ammonia violations, one BOD violation, one bis(2-ethylhexyl) phthalate violation, and four failure to monitor or record violations. The constituent bis(2-ethylhexyl) phthalate is often

[1] A reasonable potential analysis is used to determine whether a discharge, alone or in combination with other sources of pollutants to a waterbody and under a set of conditions arrived at by making a series of reasonable assumptions, could lead to an excursion above an applicable water quality standard. Federal regulations also specify that the reasonable potential determination must apply not only to numeric criteria, but also to narrative criteria.

associated with sampling and lab analysis equipment, not effluent quality, and is corrected through improved sampling and testing procedures.

The chemical parameter violations and failure to monitor violations over the nine-year span were generally intermittent, and the Discharger took actions to correct problems so that they would not recur. Although most of these violations are not ongoing and are not a current concern, the chronic toxicity violations have been a long-term issue that has been difficult for the Discharger to resolve. The chronic toxicity violations are based on an inhibition of the growth rate of the green alga *Selenastrum capricornutum*. As required by the existing order, the Discharger has implemented a Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE) in an attempt to determine the cause of the chronic toxicity results. Recent TIE/TRE results provided in a TRE progress update point to non-polar organics as potentially causing the toxicity, and additional work is ongoing to address the issue. Although not yet identified, non-polar organic compounds in ambient particulate matter commonly include n-alkanes, branched alkanes, hopanes and steranes, and polycyclic aromatic hydrocarbons (PAHs). The TRE progress update reported a recent change in the pattern of toxicity, moving from consistently present to intermittently present, with seven of 20 samples being toxic since February 2020. The Discharger is continuing with the TRE and TIE to identify and eliminate the source of chronic toxicity. Acute toxicity testing has not been exceeded during the timespan of the existing order.

Changes from the Existing Order

Central Coast Water Board staff structured the proposed order in accordance with the statewide NPDES permit template. Central Coast Water Board staff also reviewed the previous order and incorporated requirements from the previous order that need to be carried forward. The following summarizes the significant proposed changes from the previous order, which is also discussed in detail in the proposed order fact sheet:

> **Accessibility updates.** The State Water Board template for NPDES permits has been updated and revised to accommodate document accessibility needs associated with text styles formatting to facilitate the use of document reader software for persons with visual impairments or learning disabilities. Most notably, there are numerous changes to table formatting and outline structure from the previous order.
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> **Updated Owner, Contact Information, and Facility Name.** The Facility has new contact information since the adoption of the previous order. The proposed order updates the current contact information (Attachment F – Fact Sheet, Table F-1).
>
> **Updated references**. Many guidance documents, policies, and orders referenced in the previous order have been updated, amended, or superseded since 2011. The proposed order has updated citations and provides website links where direct access to the current versions of the references are available.

Recycled Water Production. The proposed order implements the Recycled Water Policy by supporting the production of recycled water and requiring volumetric reporting of wastewater and recycled water to the State Water Board.

Effluent Limitations Changes. Effluent limitations for bis(2-ethylhexyl) phthalate and aluminum have not been retained from the previous order. The elimination of these water quality-based effluent limitations (WQBELs) is consistent with the exception to the Clean Water Act's anti-backsliding requirements expressed at section 402 (o)(2)(B)(i), which allows a reissued permit to include less-stringent limitations when information is available that was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and that would have justified the application of a less-stringent effluent limitation at the time of permit issuance. In these circumstances, less-stringent limitations (here, the removal of limitations) are based on new data, which was generated during the term of previous order and which demonstrates no reasonable potential for discharges from the Facility to cause or contribute to exceedances of applicable water quality objectives for these pollutants. Therefore, effluent limitations for these pollutants from the previous order are not retained in the proposed order. Reasonable potential has been determined for chromium (VI), molybdenum, boron, chloride, total nitrate, nitrate plus nitrite, sodium, sulfate, total dissolved solids (TDS), and un-ionized ammonia, requiring effluent limitations for these parameters.

Influent Monitoring Additions. Annual influent monitoring for salts and other minerals has been added (Attachment E - MRP, Table E-2) consistent with other Central Coast Water Board monitoring programs. This additional testing will help support assessing background contributions from facilities discharging to the collection system or groundwater within areas near source water supply wells, should the need arise. The mineral balances can help forensically identify sources of groundwater pollution where multiple contributors are possible.

Effluent Monitoring Decreases. Effluent monitoring requirements have been retained from Order No. R3-2011-0211 for Discharge Point 001 to San Miguelito Creek, with some exceptions. Effluent testing for aluminum has been removed since there was no reasonable potential to exceed water quality objectives in the receiving water. However, effluent aluminum monitoring will be conducted once per year as part of Title 22 pollutant monitoring. Effluent monitoring for bis(2-ethylhexyl) phthalate was reduced from quarterly to annually since there was no reasonable potential determined. The new minimum sampling frequencies for these effluent parameters will be adequate for assessing permit compliance and provide needed data for future RPA evaluation.

Effluent Monitoring Additions. Annual effluent monitoring (Attachment E - MRP, Table E-3) for major cations and anions has been added to be consistent with other Central Coast Water Board monitoring programs, such as Central Coast Ambient Monitoring Program and Irrigated Lands Program. The additional parameters will help efforts to discern sources of water quality impacts in the

watershed through cation and anion mapping of various water sources. The additional parameters will help address the absence of effluent data for corresponding receiving water quality limitations derived from Basin Plan objectives.

303(d) Listings. The U.S. EPA approved the State's 2018 303(d) list of impaired water bodies on June 9, 2021. The 2018 303(d) list identifies San Miguelito Creek as being impaired for toxicity, nitrate, dissolved oxygen, fecal coliform, chloride, sodium, temperature, and pH. Additionally, the 2018 303(d) list identifies the Santa Ynez River below the City of Lompoc as being impaired for chloride, *E. coli*, fecal coliform, low dissolved oxygen, nitrate, sedimentation/siltation, sodium, temperature, pH, toxicity, and TDS. This order includes requirements for the Discharger to not cause or contribute to these impairments.

Maps and Process Flow Diagrams. Attachments B and C have been updated with higher quality maps and process flow diagrams.

Mercury Water Quality Objective. Since the adoption of the previous order, the State Water Board adopted and approved *Part 2 of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California – Tribal and Subsistence Fishing Beneficial Uses and Mercury Provisions* (SIP Part 2). The SIP Part 2 includes one new narrative and four new numeric mercury water quality objectives applicable to inland surface waters, enclosed bays, and estuaries of the state that have any of the following beneficial use designations: commercial and sport fishing (COMM), tribal tradition and culture (CUL), tribal subsistence fishing (T-SUB), wildlife habitat (WILD), marine habitat (MAR), rare, threatened, or endangered species (RARE), warm fresh water habitat (WARM), cold fresh water habitat (COLD), estuarine habitat (EST), or inland saline water habitat (SAL). The proposed order implements the new mercury objectives and revised mercury-specific procedures developed in accordance with SIP Part 2.

Order Findings. The proposed order (Findings, section 2) has been updated to include findings for Water Reclamation Requirements for Recycled Water Production and Use, Response to Climate Change, Human Right to Water, and Disadvantaged Community Status.

Climate Change Adaptation Plan. The proposed order (Other Special Provisions) has been updated to include that the Discharger shall submit a Climate Change Adaptation Program to the Central Coast Water Board Executive Officer describing the Discharger's long-term approach for identifying and addressing climate change hazards and vulnerabilities at the Facility, including all associated infrastructure (e.g., treatment facilities, conveyances to discharge points, discharge facilities). Changes from the Public Draft and Time Schedule Order

The draft order (originally identified as Order No. R3-2021-0005) was released for public comment on March 30, 2021, and comments were due by April 29, 2021. One set of

comments was received on the proposed order, from the Discharger, via email on April 28, 2021. Central Coast Water Board staff made several revisions to the proposed order in response to the Discharger's comments. A summarized version of the comments and detailed responses to comments are provided in Attachment 1. The Discharger commented that it may not be able to comply immediately with new limits in the draft order for boron, sulfate and chromium VI. The Discharger intends to make system improvements and engineering enhancements in its secondary treatment stages to improve salt removal and requested a time schedule order (TSO) to protect it from minimum mandatory penalties.

Central Coast Water Board staff developed a draft TSO No. R3-2022-0005 for boron, sulfate, and chromium VI (Attachment 3) that includes interim effluent limits based on the existing Facility performance and a compliance schedule for achieving the final effluent limits in the proposed order. The TSO also includes a compliance schedule for improving the temperature of the Facility's discharge to achieve the Water Quality Control Plan for the Central Coastal Basin (Basin Plan) general and beneficial use narrative receiving water limitations for temperature included in the proposed order. [2] The Central Coast Water Board publicly noticed the draft TSO from November 18, 2021, to December 20, 2021, and there were no public comments. The TSO will be signed by the Executive Officer on the effective date of the permit and will require the City to implement a plan to improve discharge water quality and meet final effluent limits within five years.

Staff also made various minor, non-substantive changes to the draft order for clarity and accuracy.

Human Right to Water

California Water Code section 106.3, subdivision (a) states that it is the policy of the State of California "that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes." On January 26, 2017, the Central Coast Water Board adopted Resolution No. R3-2017-0004, which affirms the realization of the human right to water and the protection of human health as the Central Coast Water Board's top priorities.

The proposed order incorporates requirements for the Facility to beneficially reuse treated effluent to improve water supply resiliency and to prepare for uncertainties in water resources due to the changing climate. The proposed order establishes effluent discharge limitations to protect the municipal and domestic supply (MUN) drinking water beneficial use and improve drinking water quality for those that depend on groundwater and surface waters as their drinking water source. Additionally, the proposed order implements recently updated mercury water quality objectives, which are more stringent

[2] The narrative receiving water temperature limitation in the proposed order is a combination of the Basin Plan narrative receiving water limitations associated with 1) the general objectives for all inland surface waters, enclosed bays, and estuaries, 2) the Cold Fresh Water Habitat (COLD) beneficial use, and 3) the Warm Fresh Water Habitat (WARM) beneficial use.

than previous objectives, in order to more adequately protect beneficial uses related to water and fish consumption.

Environmental Justice

Environmental Justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community's natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people, including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities.[3] Furthermore, the Central Coast Water Board is committed to providing all stakeholders the opportunity to participate in the public process and provide meaningful input to decisions that affect their communities.

The proposed order regulates the production of recycled water and discharge of treated domestic wastewater to inland surface waters. The 2018 census data identifies ten block groups as DACs and nine block groups as SDACs in the City of Lompoc, representing over half of the city population. Operation of this publicly owned treatment works in compliance with the proposed order will not pose a significant threat to water quality and is therefore unlikely to impact DACs. If impacts to surface water result from the discharges regulated by the proposed order, Central Coast Water Board staff will help facilitate outreach and education to inform affected parties and connect them with available resources. The potential costs to the Discharger and associated communities associated with the new requirements is supported by the water quality and beneficial use protection and restoration benefits, including the protection of public health. In addition, the TSO will provide temporary relief to the Discharger and associated

[3] Disadvantaged Community: a community with an annual median household income that is less than 80% of the statewide annual median household income (Public Resources Code section 80002(e)); Severely Disadvantaged Community: a community with a median household income of less than 60% of the statewide average. (Public Resources Code section 80002(n)); Economically Distressed Area: a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less with an annual median household income that is less than 85% of the statewide median household income and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2% higher than the statewide average, or (3) low population density. (Water Code section 79702(k)); Tribes: federally recognized Indian Tribes and California State Indian Tribes listed on the Native American Heritage Commission's California Tribal Consultation List; EnvDACs: CalEPA designates the top 25 percent scoring census tracts as DACs. Census tracts that score the highest five percent of pollution burden scores but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data are also designated as DACs (refer to the CalEnviroScreen 3.0 Mapping Tool or Results Excel Sheet); Fringe Community: communities that do not meet the established DAC, SDAC, and EDA definitions but can show that they score in the top 25 percent of either the Pollution Burden or Population Characteristics score using the CalEnviroScreen 3.0.

communities from potential mandatory minimum penalties while the Discharger implements corrective actions in response to the new effluent limitations.

Climate Change

The Central Coast faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution No. 2017-0012.

Aligning with State Water Board Resolution No. 2017-0012, the proposed order allows beneficial reuse of the Facility's treated effluent to offset potable water supplies for irrigation and dedicated in-stream flows to support critical creek habitat. This permit increases water supply reliability as a climate adaptation strategy, in addition to maintaining minimum instream discharges to provide water quality benefits and enhanced aquatic habitats. The proposed order supports providing recycled water for direct non-potable reuse to help offset demand on potable water supplies in alignment with the State Water Board's Recycled Water Policy and permits the Discharger's use of recycled water at the facility and for sanitary sewer cleaning and maintenance. Additionally, to incorporate proactive planning for the future, the proposed order requires the Discharger to identify and plan for hazards and vulnerabilities at the Facility exacerbated by climate change.

CONCLUSION

Proposed Order No. R3-2022-0004 has been drafted and prepared in compliance with the Basin Plan and state and federal guidance and regulations. The proposed order is protective of water quality, requires a monitoring and reporting program sufficient to demonstrate compliance with the proposed order's effluent limitations and other requirements given the results of the reasonable potential analysis, and supports efforts to produce and reuse recycled water.

RECOMMENDATION

Adopt Proposed Order No. R3-2022-0004

ATTACHMENTS

1. Comments and Staff Responses
2. Proposed Order No. R3-2022-0004
3. Draft Time Schedule Order No. R3-2022-0005

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